Station 1A: Tables

Identify the relationship. Write the equation that fits each of the tables.

**Table 1**

|  |  |
| --- | --- |
| **X** | **Y** |
| -2 | 4 |
| -1 | 12 |
| 0 | 36 |
| 1 | 108 |
| 2 |  |

**Table 2**

|  |  |
| --- | --- |
| **X** | **Y** |
| -2 | 15 |
| -1 | 6 |
| 0 | -3 |
| 1 | -12 |
| 2 |  |

**Table 3**

|  |  |
| --- | --- |
| **X** | **Y** |
| 1 | 24 |
| 2 | 12 |
| 3 | 8 |
| 4 | 6 |
| 5 | 4.8 |

**Table 4**

|  |  |
| --- | --- |
| **X** | **Y** |
| 2 | 10 |
| 4 | 14 |
| 6 | 18 |
| 8 | 22 |
| 10 | 26 |

**Table 5**

|  |  |
| --- | --- |
| **X** | **Y** |
| 2 | 2 |
| 4 | 18 |
| 6 | 162 |
| 8 | 1458 |
| 10 | 13122 |

**Table 6**

|  |  |
| --- | --- |
| **X** | **Y** |
| 1 | 7 |
| 2 | 11 |
| 3 | 15 |
| 5 | 23 |
| 7 | 31 |

**Table 7**

|  |  |
| --- | --- |
| **X** | **Y** |
| 1 | 8 |
| 2 | 16 |
| 3 | 32 |
| 4 | 64 |
| 5 | 128 |

**Table 8**

|  |  |
| --- | --- |
| **X** | **Y** |
| -2 | 4 |
| -1 | 1 |
| 0 | 0 |
| 1 | 1 |
| 2 | 4 |

Station 1B: Tables

Identify the relationship. Write the equation that fits each of the tables.

**Table 1**

|  |  |
| --- | --- |
| **X** | **Y** |
| -2 | 2.5 |
| -1 | 5 |
| 0 | 10 |
| 1 | 20 |
| 2 | 40 |

**Table 2**

|  |  |
| --- | --- |
| **X** | **Y** |
| -2 | 100 |
| -1 | 25 |
| 0 | 0 |
| 1 | 25 |
| 2 | 100 |

**Table 3**

|  |  |
| --- | --- |
| **X** | **Y** |
| -2 | 1.25 |
| -1 | 5 |
| 0 | 25 |
| 1 | 100 |
| 2 | 400 |

**Table 4**

|  |  |
| --- | --- |
| **X** | **Y** |
| -2 | .001 |
| -1 | .1 |
| 0 | 10 |
| 1 | 1000 |
| 2 | 100000 |

**Table 5**

|  |  |
| --- | --- |
| **X** | **Y** |
| -2 | 6.66… |
| -1 | 20 |
| 0 | 60 |
| 1 | 180 |
| 2 | 540 |

**Table 6**

|  |  |
| --- | --- |
| **X** | **Y** |
| 1 | 48 |
| 2 | 24 |
| 3 | 16 |
| 4 | 12 |
| 5 | 9.6 |

**Table 7**

|  |  |
| --- | --- |
| **X** | **Y** |
| 3 | -7 |
| 4 | -11 |
| 5 | -15 |
| 8 | -27 |
| 10 | -35 |

**Table 8**

|  |  |
| --- | --- |
| **X** | **Y** |
| 2 | 12 |
| 4 | 18 |
| 6 | 24 |
| 8 | 30 |
| 10 | 36 |

Station 1C: Tables

Identify the relationship. Write the equation that fits each of the tables.

**Table 1**

|  |  |
| --- | --- |
| **X** | **Y** |
| 1 | 12 |
| 2 | 36 |
| 3 | 108 |
| 4 | 324 |
| 5 | 972 |

**Table 2**

|  |  |
| --- | --- |
| **X** | **Y** |
| 2 | 72 |
| 4 | 36 |
| 6 | 24 |
| 8 | 18 |
| 12 | 12 |

**Table 3**

|  |  |
| --- | --- |
| **X** | **Y** |
| 1 | 12 |
| 2 | 17 |
| 4 | 27 |
| 6 | 37 |
| 9 | 52 |

**Table 4**

|  |  |
| --- | --- |
| **X** | **Y** |
| 1 | 12 |
| 3 | 192 |
| 5 | 3,072 |
| 7 | 49,152 |
| 9 | 786,432 |

**Table 5**

|  |  |
| --- | --- |
| **X** | **Y** |
| -7 | 8 |
| -5 | 4 |
| -3 | 0 |
| -1 | -4 |
| 1 | -8 |

**Table 6**

|  |  |
| --- | --- |
| **X** | **Y** |
| 0 | 2 |
| 1 | 7 |
| 2 | 14 |
| 3 | 23 |
| 4 | 34 |

**Table 7**

|  |  |
| --- | --- |
| **X** | **Y** |
| 2 | 12.5 |
| 3 | 31.25 |
| 4 | 78.125 |
| 5 | 195.31 |
| 6 | 488.28 |

**Table 8**

|  |  |
| --- | --- |
| **X** | **Y** |
| -2 | 7 |
| -1 | 4 |
| 0 | 3 |
| 3 | 12 |
| 5 | 28 |

Station 2A: Equations

What is the general equation for a linear relationship?

What do each of the letters represent?

What is the general equation for an inverse relationship?

What is the general equation for an exponential relationship?

What do each of the letters represent?

Analogy:

Slope is to linear equations as \_\_\_\_\_\_\_\_\_\_\_\_\_\_ is to exponential equations.

On a table where can you find the y-intercept?

What are keywords associated with slope?

What are the keywords associated with growth factor?

What are the keywords associated with y-intercept/starting point?

Station 2B: Equations

Y = 3(5x)

Which number represents the starting point/y-intercept?

Which number represents the growth factor?

Write a scenario that models this equation.

Draw a graph of this equation.

Station 2C: Equations

Y = 0.25(4x)

Which number represents the starting point/y-intercept?

Which number represents the growth factor?

Write a scenario that models this equation.

Draw a graph of this equation.

Write two equivalent equations.

Station 3C: Scenarios

A King Cobra escaped from the

Reptile House in the Bronx Zoo.

Cobras lay 30 eggs every three months.

What is the starting point of this scenario?

What is the growth factor of this scenario?

What is the equation of this scenario?

How many cobras will there be in a year?

When will there be a million Cobras?

* **King Cobras lay 20-40 eggs in a nest, which is faithfully guarded by female her mate.  The incubation time is 60-90 days.**
* **King Cobra young are called *hatchlings* since they come from eggs.  Hatchlings are about 50cm long.**
* **King Cobras (*Ohiophagus hannah*) eats other snakes!  The Latin word for "snake-eater" is ophiophagus.**
* **Cobras are the only snake in the world that can spit their venom, and they are accurate up to about half their own length!**
* **King Cobras are the longest venomous snake in the world!  The average male grows 18 feet long, and some have been known to grow more than 20 feet long.**
* **Cobras typically live to 20 years old or more in the wild.**
* **Cobras are at the top of the food chain.  Their only natural predators are the mongoose, and man.**
* **Cobras venom is not the strongest there is, but cobras can inject so much venom in a single bite that they can kill an elephant.**
* **Most cobras are shy, and run and hide when people are around.  The exception is King Cobras, who are aggressive, and will rear up and stand their ground when confronted.**
* **Cobras are not poisonous, they are venomous.  This means that even though they have deadly venom in their sacs, the rest of the snake is edible to predators, if they are brave enough to try!**
* **Cobras eat birds, fish, frogs, toads, lizards, eggs and chicks raided from poultry houses, in addition to small mammals such as rabbits and rats.**
* **Cobras don't always inject venom when they bite something.  They can do a "dry bite" if they want to.**
* **A cobras hoods is created by the extension of the ribs behind the snakes' head.**

**A group of cobras is called a *quiver*.** Station 3B: Scenarios

A scientist collected a sample of rainwater and analyzed it under the microscope. She discovered that there were 4 amebas in the sample. An ameba is a single celled organism that undergoes asexual reproduction. Amebas doubles every 15 minutes by undergoing mitosis.

What is the starting point of this scenario?

What is the growth factor of this scenario?

What is the equation of this scenario?

How many amebas will there be in a 4 hours?

When will there be a million amebas?

Station 3A: Scenarios

Peyton won the lottery. She received a dime on the first day and the amount doubled each day for a whole year.

What is the starting point of this scenario?

What is the growth factor of this scenario?

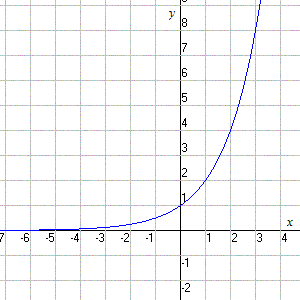
What is the equation of this scenario?

How much money will she receive on the 20th day?

Which day will she receive at least a million dollars?

How much money will she receive in total on the 300th day? (Cumulative Sum)

Station 4: Graphs



What is the equation for the graph shown?

What is the starting point?

What is the growth factor?

Make up a scenario that models this situation.

Station 5: ASSISTment

Log onto ASSISTment

Complete GGG Investigation 2 Review

Log off ASSISTment, but not off the computer.

Leave the computer on for the next classmate.